Executive Summary

The objective of this business case is to support the redesign of the "Free Application for Federal Student Aid" (FAFSA) on the web, an application used by college students and schools to submit financial applications via the Internet. The US Department of Education's Office of Student Financial Assistance Programs (SFA) has decided to evolve its FAFSA on the Web application to incorporate state of the art internet technology and component design. The redesigned site will increase usability, efficiency, security, and supportability / scalability. The case for the first release of the redesign of FAFSA on the Web estimates a project completion date of June 2001.

FAFSA on the Web Redesign

During the 2000-2001 academic year, over two million students will use FAFSA on the Web to apply for Student Financial Aid. SFA expects that count to double during the 2001-2002 academic year and to continue to rise in future years. The FAFSA on the Web Redesign initiative is an effort to modernize FAFSA on the Web while accommodating the anticipated increase in users.

Vision

The vision for the FAFSA on the Web modernization initiative is to improve customer satisfaction by providing the student who uses the site a complete user experience in applying for Federal, State, and Institutional aid. This will be accomplished by increasing the usability, accuracy, efficiency, security, and supportability / scalability of the current application.

Benefits

The primary benefit of the FAFSA on the Web Redesign initiative is to increase customer satisfaction. The FAFSA on the Web redesign will achieve its vision of providing their users "a complete user experience." SFA will also realize benefits in the reduction of costs due to reduced manual processing of applications, and fewer customer service calls as a direct result of an application that is easier to use. The application will also be redesigned to accommodate the expected increase in the number of users.

The architecture will migrate from a three tiered architecture to a *N* tier architecture where business and presentation logic are separated into different tiers. This approach will not only alleviate redundancy between applications, but will also be more easily integrated with both new and existing legacy systems.

Student Financial Assistance and Modernization Background

To improve student financial aid services nationwide, the Higher Education Amendments of 1998 established the Office of Student Financial Assistance (SFA) as the first federal Performance-Based Organization (PBO). SFA, as a PBO, is dedicated to providing outstanding customer service while simplifying, integrating, and reducing the cost of administering federal student financial assistance programs.

SFA is in the process of transforming from today's environment to the target structure as documented in the Modernization Blueprint, the Customer Service Task Force Report, and the Five Year Performance Plan. The structure illustrates the vision to deliver top-notch customer service – reaching customers, who in many instances, do not have computers – through partnership with schools and the loan industry, an empowered work force, and modern technology.

As part of SFA's transformation, the organization has realigned according to traditional commercial business segments in an effort to more effectively address the wants and needs of its customers. One of these new business segments, the Students Channel, is responsible for providing high-quality service to potential and current borrowers and for aiding recipients, while ensuring that students and parents understand their options to finance education. To accomplish this, the Students Channel must perform the following functions:

- Customer service and call center support
- Aid awareness
- Application processing
- Student credit management
- Loan servicing

In 1999, SFA selected Andersen Consulting and a core team of pre-existing contractors as its Modernization Partner. This group was charged with improving the service level provided by SFA, while reducing the overall cost of operations.

FAFSA on the Web Redesign Introduction and Background

SFA administers and operates the "Free Application for Federal Student Aid" (FAFSA), an application used by college students and schools to submit financial applications via the Internet. During the 2000-2001 academic year, over two million students will use the site to apply for Student Financial Aid. SFA expects that count to double during the 2001-2002 academic year and to continue to rise in future years. The FAFSA on the Web Redesign initiative is an effort to modernize FAFSA on the Web while accommodating the anticipated increase in users.

Challenge

Because of performance issues experienced as a direct result of the large volume of users SFA performed an assessment of the current FAFSA on the Web. The assessment revealed a network bottleneck on outbound traffic routed for delivery to the end users. It also revealed that within the current infrastructure there was an abnormally high Central Processing Unit (CPU) utilization level on the server side that services the lines used for communication between the application and the user. The bottleneck itself was caused by the extremely high utilization (35 million hits during the peak week) coupled with large file sizes (up to 118k) being transmitted back to the users' browsers. The assessment also discovered that the students lost data because of their inability to easily save their applications and the unavailability of the network.

Due to this assessment and the continued advancement of Web technology, the Office of Student Financial Assistance has decided to evolve its FAFSA on the Web application to incorporate state of the art internet technology and component design. The re-engineered site will allow for easier and faster system enhancements when resolving new issues, intuitive navigation, and increased performance and scalability.

FAFSA on the Web Redesign Vision

The vision of the FAFSA on the Web modernization initiative is to improve customer satisfaction by providing the student who uses the site a complete user experience in applying for Federal, State, and Institutional aid.

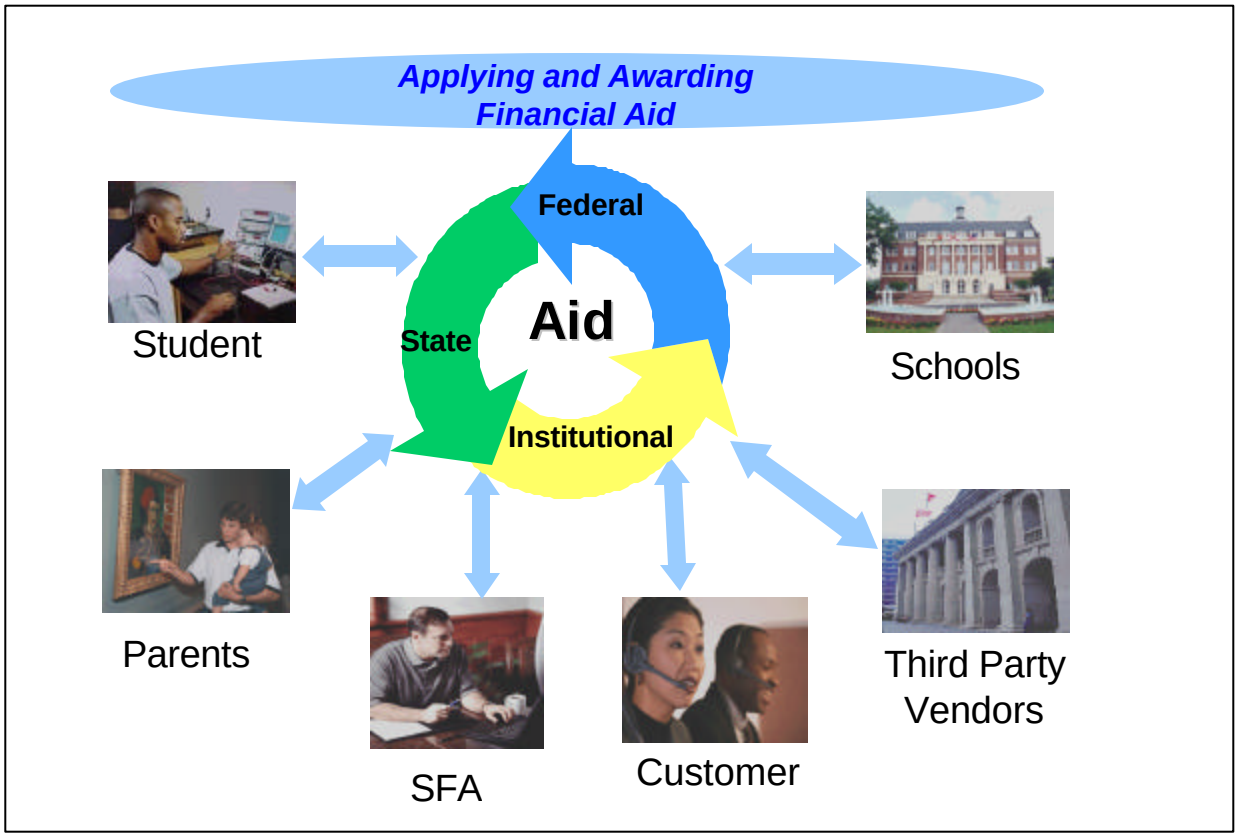

Figure 1–FAFSA on the Web Vision

This will be accomplished by increasing the usability, accuracy, efficiency, security, and supportability / scalability of the current application. Usability will include all day everyday access, a real-time display of results from the Central Processing System (CPS), reusable data that can be shared between different applications, and the incorporation of the latest best practices in web user interface design. The investigation of real-time computing may not only increase speed but also increase customer satisfaction for both students and schools. The accuracy of the application itself will increase, thereby decreasing the amount of rejected applications and the amount of post process validation performed by school personnel. Security will be increased with the incorporation of the latest industry best practices that meet or exceed security requirements set forth by SFA. Increased supportability and scalability will be achieved by developing an application that is both maintainable and expandable through a modular design.

The architecture will migrate from a three tiered architecture to a *N* tier architecture where business and presentation logic are separated into different tiers. This approach will not only alleviate redundancy between applications, but will also be more easily integrated with both new and existing legacy systems.

This N tier architecture concept is represented in the following diagram:

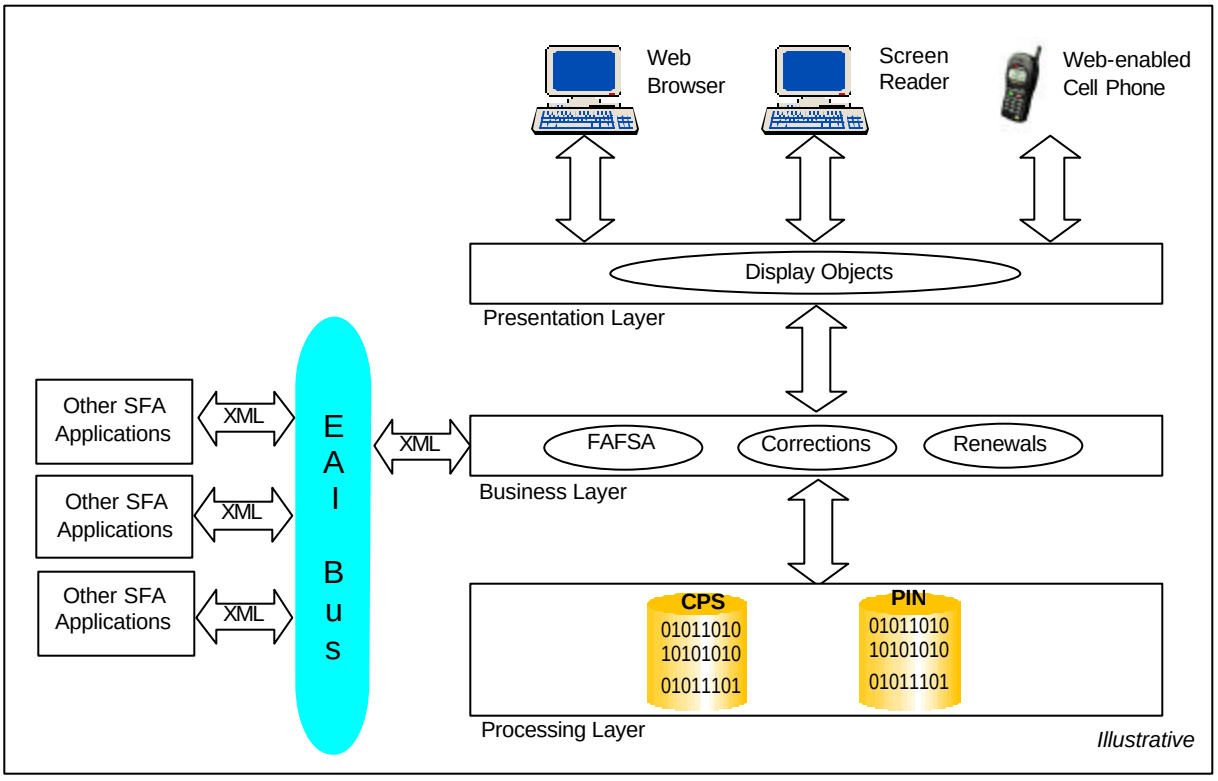

Figure 2–FAFSA on the Web Re-Architecture

The following diagram depicts the high level features for the FAFSA on the Web Redesign by release.

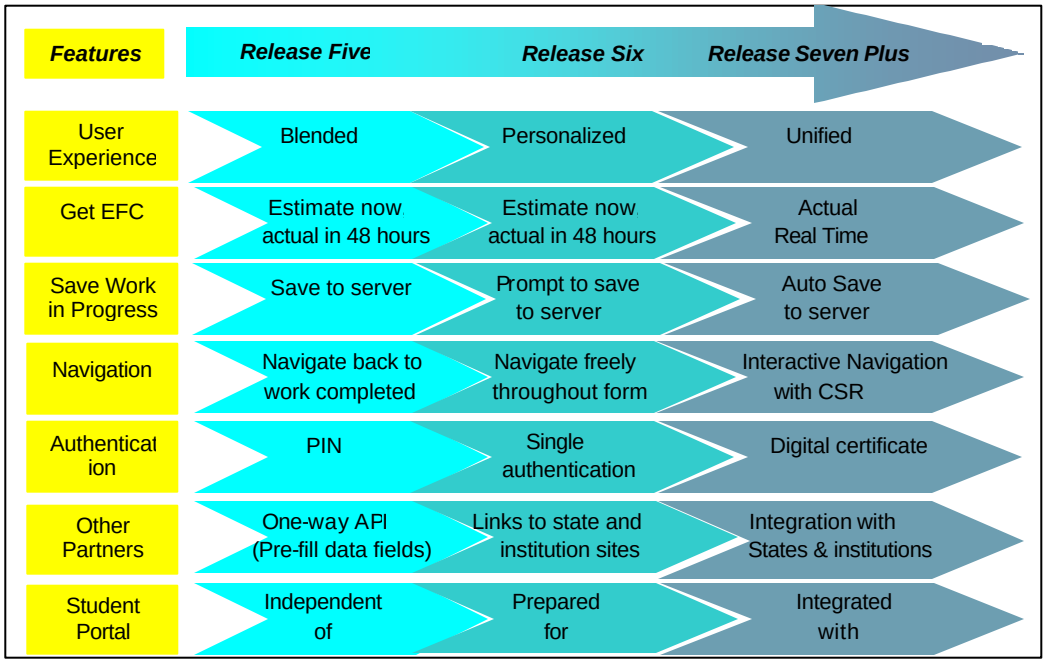

Figure 3–FAFSA on the Web Features by Release

FAFSA on the Web Redesign Interfaces and Processes

Business Areas Impacted

The major business areas / external groups that will be affected by the implementation of this initiative are:

- **Students** - Primary users of the system who are responsible for application submission, correction to an application, or renewal of an application.
- **Parents** - Also primary users of the system who are responsible for providing data for application submission and act as a signature authority for a dependent student applicant. Both students and parents will experience simplified forms that are easier to fill out, take a shorter amount of time to complete, have more consistent features and functions throughout the application, and have better availability (less downtime and more server capacity).
- **Schools** - Represent secondary users who are considered "consumers" of the data entered on the FAFSA form and are capable of providing access to the form and assistance for students through labs, FAA offices, and libraries. Schools will experience faster access to underlying information, fewer errors from key-entry, and easier and faster access for their students for application processing.
- **Third-party Vendors** - Primarily developers of third party online applications who at sometime may integrate with FAFSA on the Web. These Third-party Vendors will also experience faster access to underlying information, fewer errors from key-entry, and easier and faster access for their clients when processing an application.
- **The Students Channel (SFA)** - Responsible for ownership of the FAFSA on the Web online application. The Students Channel will experience increased job relevance, increased involvement in the delivery of solutions, tools which increase their ability to perform their jobs, and greater access to information.

Systems Impacted

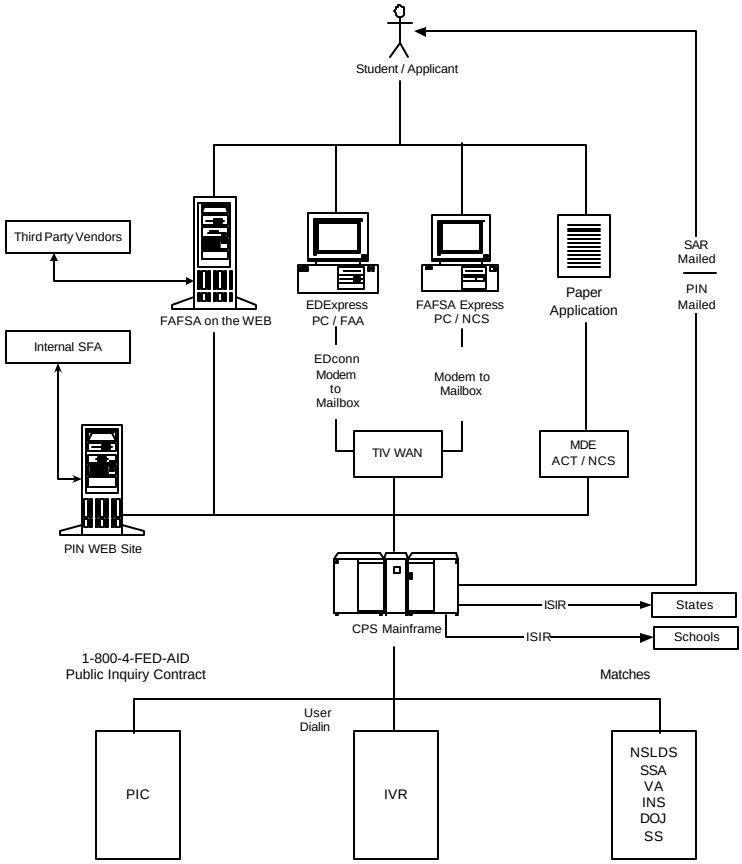

Figure 4–FAFSA on the Web Interfaces

In designing the changes and enhancements to accomplish the redesign of FAFSA on the Web, it is necessary to analyze the existing FAFSA system and better understand how it interacts with other systems and applications. As a result of this analysis it is expected that some systems may be impacted by the implementation of the FAFSA on the Web Redesign due to consistency, look and feel, and performance tuning:

- **Web Server** - Because of the redesign or enhancement of the FAFSA on the Web application the FAFSA Web server, (where the application will be stored) will be affected. It is possible that new hardware and software platforms will be recommended.
- **Third-Party applications** - Schools, other SFA systems, States, and software vendors will be affected by enhancements in how they currently access, receive, and store information.
- **PIN Web site** - The Pin Site and the Central Processing System (CPS) may both also be affected by new ways to transmit, receive, and store data.
- **The Student and School Portals** - Portals will also be impacted by this implementation in their enhanced ability to receive and process applications in a more efficient and timely manner.
- **EDExpress** - EDExpress could be affected by some functionality being incorporated or transitioned into FAFSA on the Web such as the sending of application, renewal or correction records.

- **EAI** - Additional EAI or Legacy System functionality could be incorporated into the FAFSA on the Web system allowing these systems to be upgraded for increased supportability and scalability.

Processes Impacted

Only the business processes of applying for aid using FAFSA on the Web will be impacted by the implementation of the first release of this initiative. Customer satisfaction will be increased through a user interface that is easier, faster, more intuitive, and more efficient. With future iterations of the FAFSA on the Web Redesign, additional business processes could be affected such as: the process of registering for, receiving, or accessing PINs; how EDExpress receives or sends data; and how other SFA and external systems communicate with FAFSA on the Web. Also, the business processes associated with how Customer Support, Schools, and SFA support, send, receive, and process application information could be affected.

Benefits to SFA

The FAFSA on the Web Redesign initiative will achieve its vision of providing their users "a complete user experience." SFA will also realize benefits in the reduction of costs due to reduced manual processing of applications, and fewer customer service calls because of questions / issues with FAFSA filing.

Reduce Volume of paper applications

The number of applications filed and the time associated with calls to customer service are expected to increase over the next decade because of steady growth projected in the student population. In addition, SFA is planning to increase marketing efforts to expand awareness of the web application for the next release. The number of corrections filed over the web is expected to increase tenfold. It is therefore critically important to reduce the number of paper applications and corrections filed by providing an attractive and efficient Web application product. Similarly, in proportion to the growing student population the cost of processing paper based applications will also increase due to the increased amount of applications received that need to be imaged and sent to the CPS system for integration. Providing an enhanced, easier to use, and more efficient FAFSA on the web application will cause more students to file on the web, thus decreasing the cost of processing paper based applications.

Reduce cost of Customer Service Calls

Calls to the Customer Service Center would increase proportionately without the FAFSA on the Web Redesign initiative because of the increased demand. The cost of each call to customer service will increase due to increased total "talk times" (number of calls multiplied by length of calls) in proportion to the student population. The FAFSA on the Web Redesign initiative will help reduce these costs by making the application more user-friendly and reducing the amount of calls to customer service.

The following chart depicts the growth in the use of FAFSA on the Web:

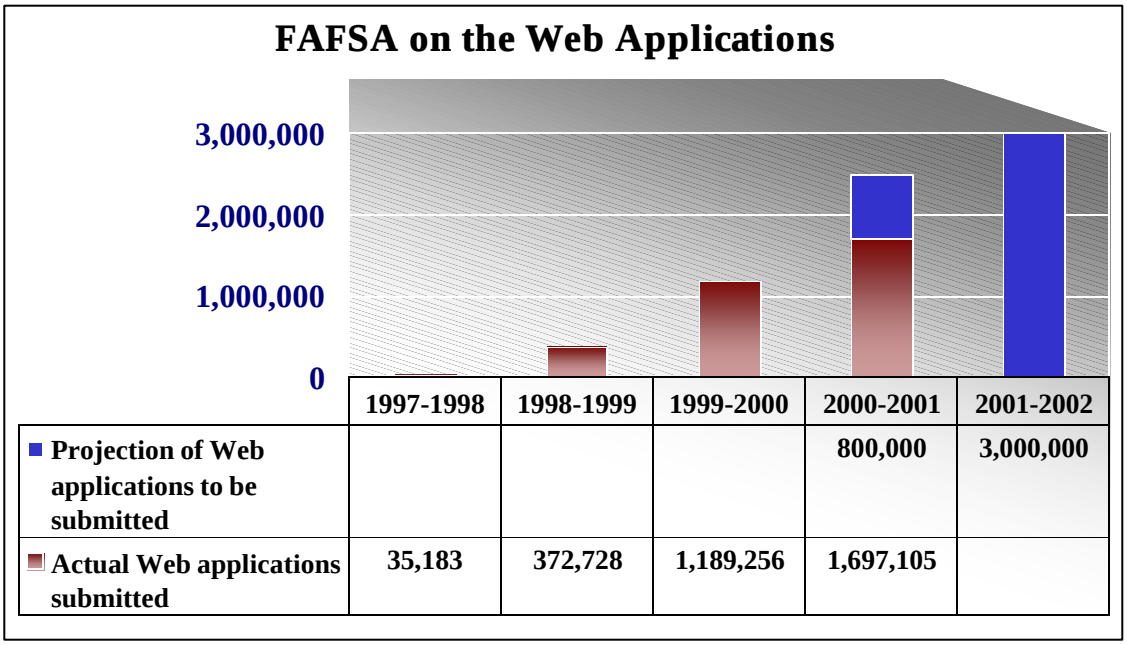

Figure 5–FAFSA on the Web Application Volumes

FAFSA on the Web Redesign Implementation Approach

Enhancements to FAFSA on the Web began with the Mad Dog report, issued on April 11, 2000. Quick hits that will deal primarily with more urgent user interface issues were identified as enhancements. Some of these enhancements were included in the June 2000 release, and a larger number will be implemented into the January 2001 release five of FAFSA on the Web by National Computer Systems (NCS).

On July 17, 2000 the Modernization Partner began the FAFSA on the Web Redesign effort. This effort continued to build upon its predecessor by improving the usability, accuracy, efficiency, supportability, scalability, and security. The FAFSA on the Web Redesign effort is a parallel effort with release five. This release is labeled release six and it is tentatively due in the beginning of June 2001.

Release six is the first iteration of the FAFSA on the Web Redesign initiative. It will continue in subsequent releases as the original goal "improved customer satisfaction by providing the student who uses the site a complete user experience in applying for Federal, State and Institutional aid" is realized.

The overall FAFSA on the Web Timeline is diagramed below:

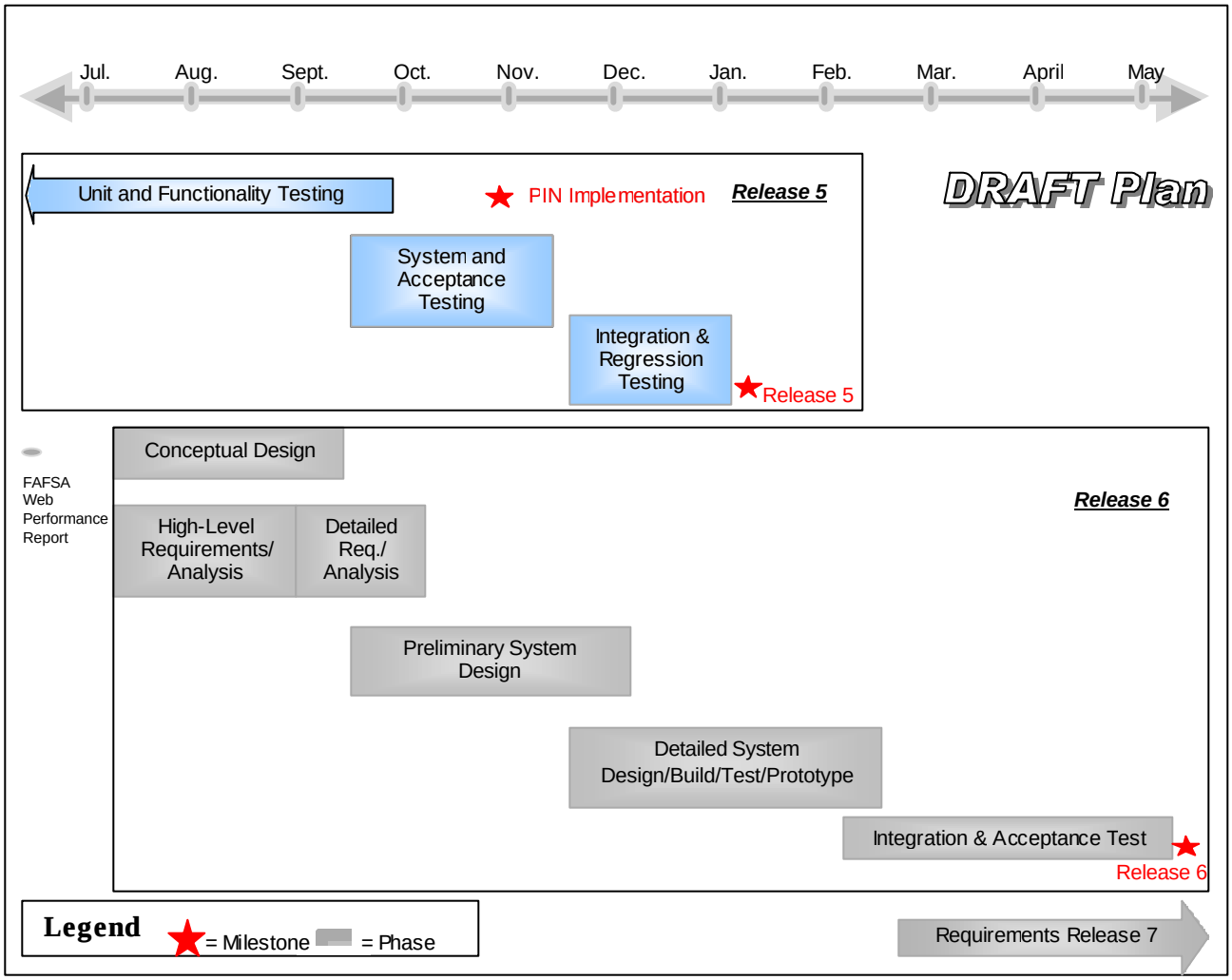

Figure 6–FAFSA on the Web Timeline

Assumptions and Risks

Key assumptions are:

- No coding changes shall occur on the CPS mainframe for release six.
- NCS will maintain and operate FAFSA on the Web after its implementation (pending contract re-compete).
- The Virtual Data Center (VDC) will host FAFSA on the Web throughout development and after deployment.
- Design specifications for the FAFSA on the Web Redesign will not be heavily impacted by the passing of "eSignature" legislation.
- All members of the team will be involved in the success of the project by providing input, feedback, and gathering information from external resources.

Key risks are:

- Volumes are tied to the projected applicant population. Cost reductions will depend heavily on the number of students willing and able to file over the web.
- Development standards are emerging but the Technical Architecture has not yet been solidified. Changes in the architecture may require a total re-platform, impacting the schedule.